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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,196	06/13/2002	Klaus Weber	AZ.3129	3273

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EXAMINER

FOX, CHARLES A

ART UNIT PAPER NUMBER

3652

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,196

Applicant(s)

WEBER ET AL.

Examiner

Charles A. Fox

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20-29 and 31-38 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show how the receivers open and close as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: on page 7 line 19 the idler roller should be reference numeral 17 not 13 as written. Applicant should reread the specification to verify that all reference numerals are correct and make any needed corrections in response to this action. Appropriate correction is required.

Claim Objections

Claims 22,23,31,32,33,35 and 36 are objected to because of the following informalities: the receivers on the handling device are located along the circumference of an imaginary circle, not on an actual circle as claimed. As claimed a physical circle must be present, and one is not shown in the figures or disclosed in the specification. The claims should be amended to refer to this circle as imaginary. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Harada et al. In regards to claim 20 Harada et al. US 5,700,127 discloses an apparatus for loading and unloading substrates from at least 2 processing stations comprising:

a conveying device (33) for the linear transport of substrates;

at least one rotatable handling device (10) for transporting said substrates from said conveying device to said process stations;

wherein said conveying device is disposed between at least two process stations; and

said handling device is disposed above said conveying device. See figures 1-3.

In regards to claim 21 Harada et al. further disclose that said handling device is disposed upon the central axis of said conveying device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22-24 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. as applied to claim 20 above, and further in view of Toshima. In regards to claims 22-24,32,33 and 35 Harada et al. teach the limitations of claim 20 as above, they do not teach the substrate handling device as having multiple substrates placed upon it at the same time. Toshima US 6,007,675 teaches a handling device for substrates comprising:

- a plurality of substrate receivers, wherein said substrates are all placed along the circumference of an imaginary circle;

- wherein said receivers are uniformly spaced along said imaginary circle;

- wherein said handling device is provided with radial arms upon which the receivers are disposed on:

- wherein said process devices are also disposed along said imaginary circle;

- and said process stations are diametrically opposed to one another in relation to said imaginary circle;

- wherein a common drive system (75) is provided for securing the substrates to said process stations. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the apparatus taught by Harada et al. with the substrate handler taught by Toshima in order to allow the apparatus to handle multiple substrates at the same time thereby decreasing the cycle time for processing a batch of substrates.

In regards to claim 34 It would have been obvious to one of ordinary skill in the art, at the time of invention that the function of the process chambers can be the same

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or different and the apparatus will still work in the same manner. Therefore it is considered an obvious design choice to have like processing chambers in the device.

Claims 25-29,31,36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. and Toshima as applied to claim 22 above, and further in view of Lynch. Harada et al. and Toshima teach the limitations of claim 22 as above, they do not teach the conveying device as being a belt. Lynch US 4,595,440 teaches a conveyor (21) for holding and moving substrates (25) from an input position to an output position in a process machine, said conveyor comprising:

- carriers (25) for holding substrates;

- wherein said carriers are uniformly spaces along said conveyor belt;

- said carriers being disposed along a central axis of said conveyor belt;

. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the apparatus as taught by Harada et al. with a conveyor belt as taught by Lynch in order to move the substrates sequentially between process devices in an indexed manner that is exact and easy to control.

In regards to claims 31,36 and 37 Harada et al. in view of Toshiba further teach that the receivers of said handling device correspond to a like number of process locations and transfer locations located along said imaginary circle, wherein during loading or unloading of said receivers, the receivers are positioned over the central point of either a processing or transfer station. While Harada et al. in view of Toshiba do not teach two carriers being positioned on the imaginary circle it would have been obvious to one of ordinary skill in the art, at the time of invention to space the carriers

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taught by Lynch in such a way so as have two carriers align with the imaginary circle taught by Harada et al. in view of Toshiba in order to allow all radial arms of the handler to work with every movement of the handler.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. in view of Toshiba as applied to claim 22 above, and further in view of Bacchi et al. Harada et al. in view of Toshiba teach the limitations of claim 22 as above, they do not teach providing a controller to drive the receivers. Bacchi et al. US 6,357,996 teaches a receiver (8) for a substrate that is opened and closed by a controller that receives signals from a charge-coupled device. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Harada et al. in view of Toshiba with a control for the opening and closing of the receivers as taught by Bacchi et al. in order for the device to grasp and release the substrates at predetermined times and locations.

Response to Amendment

The pre-amendment filed on June 3, 2002 has been entered into the record.

Allowable Subject Matter

Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art of Lynch does not teach or suggest placing two carriers in a side by side manner on the conveyor belt.

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The prior art made of record and not relied upon, but considered pertinent to applicant's disclosure is: Aronstein 1976, Hasegawa et al. 1992, Raaijmakers 2000 and Travis 2002.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Fox whose telephone number is 703-605-4294. The examiner can normally be reached between 7:00-5:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached at 703-308-3248. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
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CAF

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1-24-04